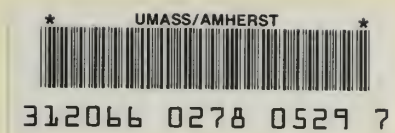


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METRO NORTH  
SERVICE DELIVERY AREA  
(Includes Cambridge)

Industry and Occupational Analysis

COMMONWEALTH OF MASSACHUSETTS

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# Division of Employment Security

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*Michael S. Dukakis, Governor*  
*Evelyn F. Murphy, Secretary, Economic Affairs*  
*Kristin S. Demong, Director, DES*



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## Metro North SDA

### I. Introduction

The Metro North Service Delivery Area (SDA) consists of nine cities and eleven towns which are parts of Middlesex and Suffolk Counties, north of Boston. All the cities and towns of the Metro North SDA are within the Boston Standard Metropolitan Statistical Area (SMSA).

In April 1984 the unemployment rate for the SDA was 4.2 percent, third lowest of the 15 SDAs in Massachusetts. This compares with a statewide rate of 5.0 percent and a national rate of 7.6 percent, both seasonally unadjusted. The SDA rate of 4.2 percent was down from 5.5 percent in April of 1983, and was dramatically lower than the recession high of 7.9 percent in July 1982, reflecting the strong recovery of the Metro North SDA (and the state) from the recession.

### II. Industry Analysis

Between the third quarter of 1981 and the third quarter of 1983 total employment in the Metro North SDA grew by almost 15,000 jobs to 310,000, a 4.8 percent gain. Almost all of this growth was in the private sector which grew by 5.2 percent during this same period, reaching a high of 286,000 during the third quarter of 1983.

An analysis of all industries in the SDA led to a selection of those industries of substantial size whose growth during this two year period exceeded the 5.2 percent growth rate of all private sector employment. Also selected were two very large industries (hospitals and colleges and universities) which grew by a somewhat lower rate but whose size indicated a very substantial number of job openings due to turnover.

Of the eleven industries selected, two fall into the area of high technology manufacturing, three are in retail trade, and six are in the services sector. The two high tech manufacturing industries, office and computing machines and electronic components and accessories, are the two largest manufacturing industries in the SDA.

Office and Computing Machines employed 9,400 persons in the Metro North SDA during the third quarter of 1983; this was a 9.7 percent increase from the same quarter two years earlier. Statewide this industry is projected to grow by 35 percent between 1980 and 1990.

The growth occupations most prevalent in this industry include electrical and electronic assemblers, electrical and electronic technicians, secretaries, computer programmers, electro-mechanical equipment assemblers, testers and systems analysts.





Electronic Components and Accessories employed 10,600 persons, making this the largest single manufacturing industry in the SDA. This employment level represented a 16.6 percent increase over the two year period. Statewide this industry is projected to grow by 29 percent between 1980 and 1990. The most important growth occupations in this industry include some of the same occupations found in office and computing machines, i.e., electrical & electronic assemblers, electrical & electronic technicians, secretaries, and electro-mechanical equipment assemblers.

Department Stores employed 7,000 persons, an increase of 9.8 percent over the two year period. On a statewide basis this industry is projected to grow by 5.6 percent between 1980 and 1990. The most common growth occupations in this industry include cashiers and general office clerks.

Grocery Stores employed 9,000 persons during the third quarter of 1983, an 8.6 percent increase over the two year period under study. Statewide this industry is projected to grow by 4.6 percent between 1980 and 1990. The most common growth occupations in this industry include cashiers, sales clerks, and general office clerks.

Eating and Drinking Places employed 16,200 making this the second largest industry in the SDA. This industry grew by 16 percent over the two-year period in the SDA, and is projected to grow statewide by 29 percent between 1980 and 1990. Most of the major growth occupations in this industry are quite specific to the industry such as: waiters and waitresses; food preparation workers/fast food; cooks; and bartenders.

Computer and Data Processing Services employed 6,200 persons, an increase of about 50 percent during the period. This industry is projected to grow by an almost incredible 116 percent on a statewide basis between 1980 and 1990. The most prevalent growth occupations in this industry include computer programmers, systems analysts, electrical and electronic technicians, secretaries, and computer operators.

Miscellaneous Business Services employed 12,600 persons in the SDA, an 11.8 percent increase during the period. Statewide this industry is projected to grow by over 20 percent between 1980 and 1990. The most common growth occupations in this industry are guards, secretaries, switchboard operators, and bookkeepers

Nursing and Personal Care Facilities employed nearly 5,000 persons, and grew by 11.5 percent during the period. Statewide this industry is projected to grow by 6.8 percent between 1980 and 1990. The most prevalent growth occupations include nurses' aides/orderlies, registered nurses, licensed practical nurses, and cleaning service workers



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Hospitals the third largest industry in the SDA, employed 15,700 persons during the third quarter of 1983. The industry grew by three percent during the two year period, a growth rate lower than that of the SDA as a whole, but it was included in this analysis because of its large size and because of the substantial number of replacement jobs it generates. The industry is projected to grow by more than 30 percent on a statewide basis between 1980 and 1990, although there is some concern that recently enacted cost-containment legislation might slow this growth. The major growth occupations in this industry are the same ones listed for nursing and personal care facilities, with the addition of secretaries and psychiatric aides.

Colleges and Universities with an employment level of 22,300 during the third quarter of 1983 (usually the lowest quarter for employment in this industry), is the largest single industry (by three digit SIC code) in the Metro North SDA. The industry grew by 4.2 percent during the two year period and was included in this analysis for the same reasons as hospitals. Employment in this industry is heavily concentrated in the southern portion of the SDA particularly in the city of Cambridge. Statewide projections for this industry indicate a growth rate of 0.9 percent between 1980 and 1990. Major growth occupations include cleaning service workers, secretaries, and general office clerks.

Engineering and Architectural Services had employment of 3,800 and showed a growth rate of almost 40 percent in the SDA during the period studied. The industry is projected to grow by 30 percent on a statewide basis between 1980 and 1990. The most common growth occupations in this industry include drafters, secretaries, general office clerks, typists, and civil engineering technicians.

### III. Occupational Analysis

In each selected industry those occupations that constituted over two percent of industry employment were analyzed. Engineering occupations and occupations requiring more than a bachelor's degree were eliminated. The remaining occupations were selected if they had projected growth rates higher than the twelve percent growth projected for all occupations in Massachusetts from 1980 to 1990, or if they had very high replacement demand and numbered over 100 jobs in the selected industries

Of all the occupations selected, the one found in the largest number of industries was secretaries, found in seven of the eleven selected industries. More than 4,000 secretaries were employed in the eleven industries, with the largest number being found in colleges and universities. General office clerks were found in four of the selected industries, totaling almost 1,300 jobs, with colleges and universities again being the largest source.

Occupations found in three of the 11 industries included cleaning service workers, kitchen helpers, and electrical and electronic technicians. The other occupations were found in only one or two of the industries. However, some of these provided a very large number of jobs; for example, waiters and waitresses, found in only one of the selected industries, provided 5,760 jobs, the largest number of jobs in any selected occupation.



Following are descriptions of the growth occupations selected:

Secretaries perform a variety of administrative and clerical duties and are found in virtually all business and industrial settings. Some secretaries such as legal and medical secretaries perform highly specialized work. The occupation is expected to generate 20,000 new jobs during the 1980's, 5,000 more than the next highest occupation. While the projected growth rate in Massachusetts is high, the size of the occupation alone should generate many more job opportunities. Technological improvements in office equipment will continue to change the work environment but will not reduce the demand for skilled personnel. Job prospects are excellent for those with typing experience, word processing skills and organizational abilities.

Bookkeepers ensure that the financial records of a firm are complete, accurate and up-to-date. They work with invoices, ledgers, vouchers, and bank balances and use adding machines and calculators, some also use business or personal computers. Employment of bookkeepers is expected to post an average growth rate, although many additional openings will be created by turnover. The computerization of bookkeeping and accounting procedures and the introduction of programmable calculators and personal computers is changing the nature of the job for a large proportion of these workers.

Psychiatric aides, also called mental health aides or mental health technicians, assist in the care of patients in psychiatric hospitals, in state facilities, and in community health centers or group homes. Employment of psychiatric aides is expected to grow at a faster than average rate. Those who have received formal training will have an advantage in obtaining or advancing into supervisory positions.

Bartenders mix and serve both alcoholic and non-alcoholic drinks. They must know how to measure and mix a number of standard drinks, but also know how to tailor drinks to a customer's specifications. Bartenders must be of legal drinking age. Employment of bartenders is expected to show faster than the average growth, with many openings resulting from the occupation's traditionally high turnover. Opportunities will occur in areas experiencing population growth and as spending on food and beverages outside the home continues to increase.

Electro-mechanical equipment assemblers put together, test and repair precision equipment such as gyros, gear trains, magnetic drums, and tape and punched-card readers, which are used in a variety of automated and electronic systems. Employment growth in the occupation is expected to exceed the average, with additional openings occurring due to traditionally high job turnover. Robot technology is not expected to impact these assembly jobs adversely in the near future, however, these positions have always been very sensitive to changes in business conditions with layoffs likely during periods of economic decline.





Systems Analysts plan efficient methods for processing data to solve complex problems. They usually specialize in either business or scientific and engineering applications. Employment in Massachusetts is projected to grow at nearly 75 percent as computer capabilities are increased and computers are used to solve a wide variety of problems. The best prospects will exist for college graduates of computer science or related curricula. Opportunities will also be very good for those graduates with courses in programming and systems analysis, and training and experience in applied fields. Nearly 20 percent of systems analysts jobs are located in computer and data processing services while an equal number exist within two manufacturing industries: office computing machinery and electronic components.

Computer Programmers write detailed instructions that list in a logical order the steps that a computer must follow to organize data, solve a problem, or do some other task. Employment is expected to grow by nearly 50 percent throughout the decade as computer usage expands. Prospects will be best for college graduates in computer science and related fields but opportunities should also be good, primarily in business settings, for those with less formal education. Beginners may experience some difficulty landing a first job, particularly during a slow economy. Forty percent of computer programmers are employed in either the computer and data processing services or office computing machinery industries.

Electronic Technicians develop, manufacture and service electronic equipment systems. Employment is expected to increase much faster than average, especially in the fields of computer and communication equipment. Opportunities will be best for graduates of post secondary training programs. During times of economic declines, however, inexperienced technicians may find it difficult obtaining jobs. Approximately one-third of employment is concentrated in the office computing machine and electronic component sectors.

Electronic Assemblers put together electrical and electronic equipment such as computers, calculators, missile control systems, and machine tool numerical controls. While not projected to grow as fast as many other occupations in the high technology sector, the growth rate for electronic assemblers should still double the statewide average. Over half of electronic assembly jobs are located in either the office computing machine or electronic component industries. Between 10 and 15 percent of jobs in these two industries are distributed among the various types of electrical, electronic, and electro-mechanical equipment assemblers. Employment prospects within these occupations will be affected by defense spending and changes in economic conditions.

Product/Material Testers examine and evaluate parts, products, or other manufactured materials to determine whether the item in question meets quality and performance standards. Although formal post secondary training is not usually required, employers often look for high school graduates who have some technical skills and experience with technical products. Approximately 50 percent of employment is concentrated among three industries: office computing machinery, electronic components, and communications equipment. As these industries prosper, the outlook for the occupation should remain favorable.





Computer and Peripheral Equipment Operators control and tend computers used to process data and run the machines used along with computers. Demand should be quite high for these occupations, however, employment of data entry operators should decline as more efficient direct entry techniques are adopted. Computer equipment operators are employed in a wide variety of industries. Persons with formal computer training and experience will have an advantages.

Security Guards protect property at commercial, industrial, and government centers, as well as public buildings such as banks, art galleries, and museums. Employment will grow rapidly through the 80's as concern increases over crime and vandalism. Over half of employment is concentrated within miscellaneous business services, namely protective security agencies. Opportunities will be best for those seeking work on night shifts.

Waiters and Waitresses take customer orders, serve food and beverages, make out checks and take payments. The occupation will generate 11,000 new jobs in Massachusetts during the 80's the third highest. People dining out more and opportunities for part-time work should contribute to rising employment levels. Many more positions will become available because of the high turnover nature of the position.

Fast Food Preparation Workers are employed in restaurants where menus are generally limited to a few primary items. Employment in this occupation will grow at a nearly 50 percent rate between 1980 and 1990. These occupations have very high turnover rates and offer many part-time openings. With changing demographics leading to a sharp drop in the number of teenaged youth, job openings could be quite high.

Cooks are in charge of food preparation, though their specific duties vary depending upon the size of the establishment. The demand for cooks and chefs will rise as people dine out more often. Areas exhibiting growing population will likewise generate increased opportunities. Persons who have had courses in food preparation will have an advantage in competing for the more lucrative jobs in large restaurants.

Cleaning Service Workers are responsible for keeping buildings in a clean and orderly condition. The category includes janitors, porters and cleaners. Cleaning service workers are employed in many industries, the most prevalent being, services to buildings, schools, hospitals, and hotels and motels. The demand for maintenance personnel will result in employment growth slightly higher than average. High job turnover and the large size of this occupational group will generate numerous openings each year.

Licensed Practical Nurses (LPN's) work under the supervision of physicians and registered nurses to help care for the physically or mentally ill. They train in programs which generally last one year and which include both classroom study and clinical practice. Employment of LPN's is projected to grow at over 20 percent as the demand for health care continues to grow rapidly. There will be a need for practical nurses to care for the growing elderly population, to provide additional health care that results from expansion in public and private health insurance plans, and for private duty nursing. Approximately 60 percent of LPN's work in hospitals and 23 percent in nursing and personal care facilities.



Nurse Aides work under the direction of physicians and nurses caring for sick and injured patients. The increasing demand for health care of a longer living population should accentuate long term demand. Approximately half of all nurse's aides work in nursing homes and other long-term care facilities. Another one-third of nurse aide positions occur in hospitals. Employment is expected to grow by nearly 20 percent but many additional positions will become available due to high job turnover.

General Office Clerks have varied duties which usually include a combination of bookkeeping, typing, office machine operating, and filing. While employment is expected to grow more slowly than the average for all occupations, the number of annual openings will be substantial due to the large size of this occupational group and because of high turnover and replacement demands. As business expansion creates increases in the volume of paperwork, demand will persist for general office clerks to handle the necessary communications flow. General office clerks are employed in many industries such as schools, government, hospitals, insurance, banking, brokerage services, and grocery stores.

Cashiers are responsible for handling the money that comes into an enterprise. In supermarkets and large department stores cashiers spend long periods standing at checkout counters processing customer purchases of store items. Employment of cashiers is expected to grow at a slightly above average rate. The widespread use of automated checkout systems such as those in supermarkets may slow growth, but many more jobs will be created as a result of high job turnover. Nearly half of all cashiers are employed in grocery stores with another 20 percent employed amongst department stores, drug stores, and eating and drinking places.

Registered Nurses (RN's) perform a wide variety of health care functions. While programs for registered nurses vary in length from two to five years, the best opportunities will be for those holding bachelor's degrees. Employment of registered nurses is projected to grow by 30 percent as demand will be accentuated by the growing need for specialized nursing skills in emergency and operating room procedures, and to provide services for our rapidly increasing number of elderly people. Despite the recent trends toward cost containment, RN's will still be needed because of the complexity of hospital based medical procedures and equipment, and because of the rapid growth of clinics, emergency centers, and other health care facilities. Nearly two out of every three registered nurses are employed in hospitals.

Drafters prepare detailed plans that show the exact dimensions of objects and their parts which workers follow during building or manufacture. Their drawings are based on rough sketches, specifications, and calculations made by engineers, architects, scientists and designers. Although high school graduates who have studied drafting may qualify for some entry level jobs, most employers prefer to hire applicants who have received post secondary training. Employment of drafters is expected to grow at a faster than average rate. Expanding use of computer aided drafting and design systems, however, may gradually reduce the need for less skilled drafters.





Sales Clerks work in either retail stores, such as department stores, grocery stores and the like, or in wholesale establishments. They are primarily responsible for selling goods to customers. Sales clerks total bills, receive payments, make change, wrap merchandise, and stock shelves. Training is provided on the job and part-time positions are frequently available. Although employment of sales clerks is expected to show slower than average growth, the large size of this occupation and traditionally high job turnover will create numerous openings each year.





Metro North SDA

Growth Industries

	Employment 3rd Qtr. 1983
Office and Computing Machines	9,420
Electronic Components and Accessories	10,580
Department Stores	7,030
Grocery Stores	9,040
Eating & Drinking Places	16,180
Computer & Data Processing Services	6,200
Miscellaneous Business Services	12,600
Colleges & Universities	22,260
Hospitals	15,660
Nursing & Personal Care Facilities	4,950
Engineering & Architectural Services	3,820

Growth Occupations

	Employment in Selected Ind	Statewide growth Proj. 1980-1990
Waiters/Waitresses	5,760	19.4
Secretaries	4,120	27.2
Registered Nurses	3,950	30.0
Cashiers	3,440	13.9
Nurse Aides	3,380	18.5
Security Guards	3,060	25.3
Cleaning Service Workers	2,430	14.3
Electronic Assemblers	2,020	24.0
Electronic Technicians	1,950	46.7
Fast Fd. Preparation Workers	1,760	47.1
Licensed Practical Nurses	1,530	20.2
Computer Programmers	1,510	47.3
General Office Clerks	1,300	6.8
Sales Clerks	1,190	9.4
Systems Analysts	1,020	73.4
Cooks	1,390	24.7
Bookkeepers	720	12.5
Drafters	640	28.3
Bartenders	640	15.6
Elec. Mech. Equip. Assemblers	550	28.6
Psychiatric Aides	390	27.6
Product/Material Testers	280	19.3
Computer & Peripheral Equip. Opers.	130	42.8



TABLE #  
UNEMPLOYMENT RATES FOR THE  
METRO NORTH  
SERVICE DELIVERY AREA,  
MASSACHUSETTS, and UNITED STATES

PERIOD	SDA	MASSACHUSETTS	UNITED STATES
1981 Annual Average	5.8	6.4	7.6
1982 Annual Average	6.6	7.9	9.7
1983 Annual Average	5.7	6.9	9.6
<u>1982</u>			
JANUARY	6.7	8.0	9.4
FEBRUARY	7.0	8.3	9.6
MARCH	6.3	7.6	9.5
APRIL	6.6	8.0	9.2
MAY	7.3	8.6	9.1
JUNE	7.7	9.0	9.8
JULY	7.9	9.6	9.8
AUGUST	6.5	7.6	9.6
SEPTEMBER	6.3	7.4	9.7
OCTOBER	6.0	7.2	9.9
NOVEMBER	5.3	6.5	10.4
DECEMBER	5.6	7.1	10.5
<u>1983</u>			
JANUARY	6.9	8.7	11.4
FEBRUARY	6.5	8.2	11.3
MARCH	6.4	8.0	10.8
APRIL	5.5	6.7	10.0
MAY	5.5	6.5	9.8
JUNE	6.4	7.5	10.2
JULY	5.3	6.2	9.4
AUGUST	5.2	6.0	9.2
SEPTEMBER	6.1	7.0	8.8
OCTOBER	5.6	6.4	8.4
NOVEMBER	4.6	5.6	8.1
DECEMBER	4.6	5.8	8.0
<u>1984</u>			
JANUARY	6.0	7.3	8.8
FEBRUARY	5.1	6.3	8.4
MARCH	4.8	5.8	8.1
APRIL	4.2	5.0	7.6

SOURCE: Local Area Unemployment Statistics Program  
Figures not adjusted for seasonality.





